

# SIEMENS

Ingenuity for life

## SICAM A8000 Series

Compact, Flexible Telecontrol and Automation System

[www.siemens.com/sicam-a8000](http://www.siemens.com/sicam-a8000)

### Wherever energy flows

The applications for the SICAM A8000 series comprise distribution automation through connection of renewable energies (wind, solar, hydro) right down to railway power supply and industrial applications.

Customer requirements like IT security, scalability, flexible communication, space-saving design and suitability for rough ambient conditions have been taken into account when designing the SICAM A8000.

With the new CP and expansion modules, the SICAM A8000 series with its modular components offers scalable solutions for any performance requirement.

### SICAM A8000 – module types

Processor modules (up to 14 interfaces)

Power supplies (DC 24-60; 110-220 V; AC 230 V)

Ethernet communication modules

Expansion modules for max. 16 I/O lines

Digital input module (DC 24 V; 48/60 V; 110 V; 220 V)

Digital output module

(DC 24/48/60/110/220 V; AC 110/230 V)

Analog input module (-20/+20 mA; -10/+10 V; Pt 100)

Analog output module

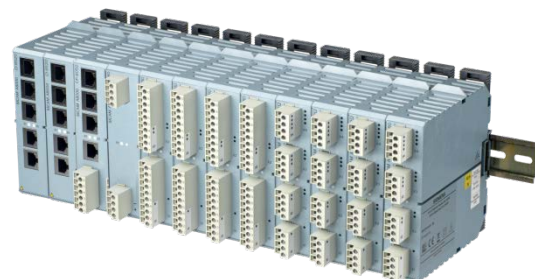
(-20/+20 mA; -10/+10 mA; -10/+10 V)

Input current/voltage (1A / 5 A; LoPo; 230 V)

The universal digital and analog input/output modules can be plugged in any order and are suitable for the smallest spaces due to their module width of 30 mm.

### Benefits for customer

- Suitable for rough ambient conditions due to expanded temperature range -40°C to +70°C



SICAM A8000 CP-8050

- The increased EMC stability of up to 5 kV (IEC 60255) qualifies the devices for direct use in substations
- Straightforward engineering with the integrated web parameterization tool
- Fulfills high cyber security requirements thanks to the integrated crypto chip and IPSec encryption
- High investment security through use of international standards such as IEC 61850, IEC 60870-5-101/-103/-104, etc
- The modular platform provides versatile application options and reduces inventory
- Can be adapted to existing communication infrastructures with its multitude of interfaces and integrated GPRS module
- The integrated short-circuit indicator functionality allows use in network monitoring
- Time and cost savings thanks to easy installation and maintenance – plug and play

# Compact and flexible

## Device characteristics

### Communication interfaces and protocols

- CP-8000: 2x RJ45 (Eth), 1x RS232, 1x RS485
- CP-8021: 2x RJ45 (Eth), 1x RS232 (RJ45), 1x RS485
- CP-8022: 2x RJ45 (Eth), 1x RS232 (RJ45), 1x RS485, 1x RS232/RS485 (selectable), 1x GPRS
- CP-8050: 2x RJ45 (Eth), 1x RS232 (RJ45), 1x RS485, 10x RJ45 (Eth) with CI-modules
- IEC 60870-5-101/-103/-104, Modbus RTU / TCP
- IEC 61850 Ed1/Ed2 Client & Server incl. GOOSE
- DNP3 Master/Slave serial, TCP/IP
- Further protocols on request

### Auxiliary voltage

- DC 24 – 60 V (12 W or 45 W)
- DC 110 – 220 V (12 W or 45 W)
- AC 230 V (45 W)
- Redundancy possible

### Inputs/outputs

- CP-8000: Max. 116 I/Os with up to 6 expansion modules
- CP-8021, CP-8022: max. 128 I/Os with up to 8 expansion modules
- CP-8050: max. 2048 I/Os with up to 16 I/O lines, 8 expansion modules each

### Real-time clock

- +/- 2 ppm, time synchronization via NTP, SNTP

## Electromagnetic compatibility

- IEC 60870-2-1, IEC 61010, IEC 60255-5, IEC 61000-4, EN 55022, CE marking

## Temperature range

- From -40°C to +70°C

## Housing specification

- Plastic housing for DIN rail mounting
- Dimensions CP-8000: 128x124x123 mm (W / H / D)
- Dimensions CP-8021/22/50, CI, PS and expansion modules: 30x132x124 mm (W / H / D)

## Special features

- Integrated display and 4 function keys at CP-8000
- Integrated web server for configuration and diagnostics with CP-8000/21/22, SICAM TOOLBOX with CP-8050
- Data storage via SD memory card (storage of parameters and device firmware)
- Freely programmable user programs as per IEC 61131-3
- Future security standard:
  - BDEW white paper conformity
  - integrated crypto chip
  - IPsec encryption
  - https protocol
  - Firmware signature
  - Security logbook
- Additional with CP-8050**
  - Integrated software firewall
  - Role based access control
  - Configurable system functions



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This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit ([www.openssl.org](http://www.openssl.org)), cryptographic software written by Eric Young ([eay@cryptsoft.com](mailto:eay@cryptsoft.com)) and software developed by Bodo Moeller.